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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/320,457	05/27/1999	KAZUO ISHII	040373-0255	4750

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EXAMINER

FUREMAN, JARED

ART UNIT	PAPER NUMBER
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2876

DATE MAILED: 06/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/320,457

Applicant(s)

ISHII, KAZUO

Examiner

Jared J. Fureman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 19.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Receipt is acknowledged of the IDS filed on 4/4/2002 and the amendment filed on 4/5/2002, which have been entered in the file. Claims 1, 2, and 4-10 are pending.

Claim Objections

1. Claim 7 is objected to because of the following informalities: Claim 7, lines 3-6, and 12: "signal" should be replaced with --symbol--, in order to provide consistency with "optical symbol" as recited in lines 1, 2, 8-10, 14, 16, and 18. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridgelall et al (US 5,525,788, previously cited) in view of Inagaki (JP 3-1285, previously cited), Nishimura et al (US 5,436,439, previously cited), and Smith et al (US 5,308,960).

Bridgelall et al teaches an optical symbol reading device and method comprising: an image data input section including an image data input unit (scanner 40) for receiving a bar code label (50) on an article (3010) that is moved by a conveyor, an image data input focus point modifier (within microprocessor 10), an article detector (article sensor 3100) for detecting that the article has entered a read zone, an

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interpreter for converting electric signals from the image data input section to numbers or characters, an interpretation result output section for outputting the interpretation results of the interpreter to an external device, a front surface position detector (belt speed indicator 3000, article sensor 3100) for continuously detecting a position on the conveyor of a front surface of an article that is moved by the conveyor, an image data input focus point control section for outputting data from the front surface position detector to the image data input focus point modifier, the image data input focus point control section including means for converting front surface position data of the article that are received from the front surface position detector to a reading distance, which is the distance between the image data input unit and the front surface of the article, and outputting the reading distance as focus point data to the image data input focus point modifier, the image data input focus point modifier including means for matching the focus point to the front surface of the article that moves constantly over time by setting the focus point to a position designated by the focus point data that are received from the image data input focus point control section (see 1, 2, 4, 25, column 1 lines 28-45, column 4 lines 34-65, column 6 line 18 - column 7 line 40, column 7 line 54 - column 9 line 34, column 10 line 62 - column 11 line 41, and column 20 lines 20-34).

Bridgelall et al fails to teach the image data input section including a front surface symbol reading device and back surface symbol reading device, and means for reading two surfaces, a side surface/back surface or a side surface/front surface, of an article moved by a conveyor by fixing a focus on a position of the side surface and reading the

side surface when receiving a bar code label on the side surface of the article from the image data input unit.

Inagaki teaches an optical symbol reading device and method comprising: an image data input section (first reading mechanism 6) which includes a front surface symbol reading device (reader 3-2) and back surface symbol reading device (reader 3-1), and means (readers 3-1 and 3-2 in combination with readers 1-1 and 1-2) for reading two surfaces, a side surface/back surface or a side surface/front surface (see figures 1-3 and the translation of the abstract).

In view of Inagaki's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the system and method as taught by Bridgelall et al, the image data input section including a front surface symbol reading device and back surface symbol reading device, and means for reading two surfaces, a side surface/back surface or a side surface/front surface, of an article moved by a conveyor by fixing a focus on a position of the side surface and reading the side surface when receiving a bar code label on the side surface of the article from the image data input unit, in order to provide a system where a bar code can be read irrespective of an arranged position of a article.

Bridgelall et al as modified by Inagaki fails to specifically teach a front surface/back surface position detector for continuously detecting a position on the conveyor of both a front surface and a back surface of an article that is moved by the conveyor, the front surface/back surface position detector including means that is provided with a light projection position detector and a light reception position detector

made up of a plurality of transmissive multiple optical axis sensors, for finding the position of the front surface of the article by detecting which transmissive multiple optical axis sensors of the plurality of transmissive multiple optical axis sensors of the light projection position detector are being shielded by the article, each of the optical axis corresponding to a different position along a conveyor, determining which of the plurality of optical axis are shielded by the article, detecting the leading edge of the front surface, and detecting the trailing edge of the back surface.

Nishimura et al teaches an optical symbol reading device and method including: a front surface/back surface position detector (article location detector 12) for continuously detecting a position on the conveyor of both a front surface and a back surface of an article that is moved by a conveyor, the front surface/back surface position detector includes means that is provided with a light projection position detector and a light reception position detector made up of a plurality of transmissive multiple optical axis sensors (light sources 34a-34k and light interceptors 35a-35k), for finding the position of the front surface of the article by detecting which transmissive multiple optical axis sensors of the plurality of transmissive multiple optical axis sensors of the light projection position detector are being shielded by the article, each of the optical axis corresponding to a different position along a conveyor, determining which of the plurality of optical axis are shielded by the article, detecting the leading edge of the front surface, and detecting the trailing edge of the back surface (see figures 1-8, column 3 line 63 - column 4 line 35, column 5 line 62 - column 6 line 14).

In view of Nishimura et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system and method, as taught by Bridgelall et al as modified by Inagaki, to include a front surface/back surface position detector for continuously detecting a position on the conveyor of both a front surface and a back surface of an article that is moved by the conveyor, the front surface/back surface position detector including means that is provided with a light projection position detector and a light reception position detector made up of a plurality of transmissive multiple optical axis sensors, for finding the position of the front surface of the article by detecting which transmissive multiple optical axis sensors of the plurality of transmissive multiple optical axis sensors of the light projection position detector are being shielded by the article, each of the optical axis corresponding to a different position along a conveyor, determining which of the plurality of optical axis are shielded by the article, detecting the leading edge of the front surface, and detecting the trailing edge of the back surface, since it is an art recognized functional equivalent to sensing the presence of the article and sensing the belt speed to determine the articles position (see column 5 line 62 - column 6 line 14), as taught by Bridgelall et al.

Bridgelall et al as modified by Inagaki and Nishimura et al fails to specifically teach said image data input focus point modifier continuously adjusting the focus point based on the data from the front surface/back surface position detector.

Smith et al teaches an optical symbol reading device and method comprising: an image data input section including a symbol reading device (camera 50), a front surface position detector (506), and continuously adjusting the focus point based on the data

from the front surface position detector (see figure 10 and column 21 line 9 - column 22 line 33).

In view of Smith et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the system and method as taught by Bridgelall et al as modified by Inagaki and Nishimura et al, said image data input focus point modifier continuously adjusting the focus point based on the data from the front surface/back surface position detector, in order to provide a faster response when an additional scan is required, since the system would always be in focus it would not be necessary to adjust the focus at the time when an additional scan is requested.

4. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridgelall et al as modified by Inagaki, Nishimura et al, and Smith et al, further in view of Rando (US 5,869,827).

The teachings of Bridgelall et al as modified by Inagaki, Nishimura et al, and Smith et al have been discussed above.

Bridgelall et al as modified by Inagaki, Nishimura et al, and Smith et al fails to specifically teach conveying an article including a first optical symbol on a front surface and a second optical symbol on a back surface, reading the first and second optical symbols while conveying the article.

Rando teaches a method for reading an optical symbol, comprising the steps of: conveying an article including a first optical symbol on a first surface and a second optical symbol on a second surface, reading the first and second optical symbols while

conveying the article (see figures 2, 6B, column 3 lines 40-42, column 5 lines 41-61, and column 11 lines 32-51).

In view of Rando's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the system and method as taught by Bridgelall et al as modified by Inagaki, Nishimura et al, and Smith et al, conveying an article including a first optical symbol on a front surface and a second optical symbol on a back surface, reading the first and second optical symbols while conveying the article, in order to ensure accurate identification of the article.

Response to Arguments

5. Applicant's arguments with respect to claims 1, 2, and 4-10 have been considered but are moot in view of the new ground(s) of rejection.

As discussed above, Smith et al teaches continuously adjusting the focus of an optical symbol reading device.

6. Applicant's arguments filed 4/5/2002 have been fully considered but they are not persuasive.

In response to Applicant's argument that one of ordinary skill in the art would not look to add a trailing edge detector of Nishimura, because it would eviscerate the very benefits Bridgelall seeks to obtain by using an X/Y scanner (see page 5 of the amendment filed on 4/5/2002), the system and method as taught by Bridgelall et al does not track the range and location of the symbol/article using the X/Y scanner alone. The system also requires a belt speed indicator 3000 to allow for tracking the moving article (see column 9 lines 32-35). As discussed above, Nishimura et al teaches that using a

light projection position detector and a light reception position detector made up of a plurality of transmissive multiple optical axis sensors, is an art recognized functional equivalent to sensing the presence of the article and sensing the belt speed to determine the articles position (see column 3 line 63 - column 4 line 35 and column 5 line 62 - column 6 line 14). Thus, the detector as taught by Nishimura et al can be used in place of the belt speed indicator as taught by Bridgelall et al.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mazzone (US 6,325,289 B1) and Bengala (US 6,347,740 B1) both teach systems and methods for reading an optical symbol on an item being conveyed by a conveyor.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared J. Fureman whose telephone number is (703) 305-0424. The examiner can normally be reached on 7:00 am - 4:30 PM M-T, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (703) 305-3503. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

jjf

jjf

June 20, 2002


MICHAEL G. LEE
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